

## Montana Board of Oil and Gas Conservation Environmental Assessment

**Operator:** Slawson Exploration Company, Inc.  
**Well Name/Number:** Rover 1-20H  
**Location:** NW NW Section 20 T23N R53E  
**County:** Richland, MT; Field (or Wildcat) Wildcat

### Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig 900 HP. Drilling to 13,493' MD/9,400' TVD.

Possible H<sub>2</sub>S gas production: Slight chance H<sub>2</sub>S.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Single lateral, 13,493' MD/9,400' TVD, Bakken Formation horizontal well.

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### Water Quality

(possible concerns)

Salt/oil based mud: Yes intermediate string casing hole will be drilled with oil based invert drilling fluids. Oil based invert drilling fluids for horizontal leg. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: No high water table expected.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to East Redwater Creek, about 1/4 of a mile to the east from this location.

Water well contamination: No, closest nearby wells are about 3/4 of a mile to the northwest from this location. Depth of these wells are 46' and less in depth. Surface hole will be drilled with freshwater and surface casing will be cemented to surface from 1550'.

Porous/permeable soils: No, silty sand clay soils.

Class I stream drainage: No, Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☒ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: \_\_\_\_\_

Comments: 1550' surface casing to be set to protect freshwater zones and to cover the Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems in and around freshwater slough.

### Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: Yes, location will require moderate cut, up to 20.0' and moderate fill, up to 18.6', required.

Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, very large well site 450'X420'

Damage to improvements: Slight, surface use is grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other \_\_\_\_\_

Comments: Access will be over existing county road, #313. An access road will be built into location off the existing county road, 313, about 1,194' new road will be built into this location. Cuttings will be buried in the lined reserve pit. Oil based invert drilling fluids will be recycled. Completion fluids will be hauled to a Class II disposal. Pit will be allowed to dry before being backfilled. No concerns.

### Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residence is about ¾ of a mile to the northwest from this location.

Possibility of H2S: Slight chance H2S.

Size of rig/length of drilling time Triple drilling rig 25 to 35 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Distance sufficient to mitigate noise problems.

### Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified

Creation of new access to wildlife habitat No

Conflict with game range/refuge management No

Threatened or endangered Species Threatened or endangered species listed in Richland county by USFW service are Pallid Sturgeon, Piping Plover, Interior Lease Tern and Whooping Crane. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. NH tracker website lists the following as "Species of Concern": None listed.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: \_\_\_\_\_

Comments: Private grasslands. There maybe species of concern that maybe impacted by this

wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern are discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites None identified

Mitigation

   avoidance (topographic tolerance, location exception)

  X   other agency review (SHPO, DSL, federal agencies)

   Other: \_\_\_\_\_

Comments: Private grasslands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Social/Economic**

(possible concerns)

   Substantial effect on tax base

   Create demand for new governmental services

   Population increase or relocation

Comments: No concerns

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### **Remarks or Special Concerns for this site**

A single lateral Bakken horizontal well, 13,493' MD/9,400' TVD.

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### **Summary: Evaluation of Impacts and Cumulative effects**

No long term impacts expected. Some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: September 21, 2011

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Richland County

(date)

September 6, 2011

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA  
COUNTIES, Richland County

(subject discussed)

September 6, 2011  
(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T23N R53E

(subject discussed)

September 21, 2011  
(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_